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ART. VI.—*On the Identification of the Mustard Tree of Scripture; by J. FORBES ROYLE, M.D., F.R.S., L.S. and G.S., &c., Professor of Materia Medica and Therapeutics, King's College, London.*

[Read March 16, 1844.]

NUMEROUS attempts have at different times been made by a variety of authors to identify the two plants which in the authorised version of the Scriptures are translated *Mustard Tree* and *Hyssop*. That these attempts have not been so satisfactory to others, as to set the questions at rest, is evident from fresh plants being continually adduced, even in recent works, as possessed of the requisite characteristics. It may be inferred that these do not appear, to the author of this paper, to have been more successful than preceding endeavours, from his making a fresh, and which to many will appear a presumptuous attempt to determine what has baffled so many able inquirers. Few fields, however, are so barren, even after they seem to have been cleared by the most skilful reapers, as not to yield some grains to the careful gleaner. So, continued attention to any one pursuit, never fails to throw light, not only on itself, but also on other, and what at first appear but remotely connected subjects. Thus it has been in the study of *ancient* for the purpose of elucidating *modern Materia Medica*, and of both in connexion with the Botany of the East, that the author has been led to conclusions, which seem to elucidate some of the disputed points in Biblical botany.

As this may require explanation, I may here mention, as I have already related¹, that my attention was first directed to the identification of the natural products mentioned in ancient authors, in consequence of having, in 1825, while in medical charge of the station of Saharunpore, and of the Honourable East India Company's Botanic Garden there, been requested by the Medical Board of Bengal to investigate the medicinal plants and drugs of India. This was for the purpose of ascertaining how far the public service might be supplied with medicines grown in India, instead of their being nearly all imported from foreign countries. In endeavouring to effect this im-

¹ Proceedings of the Royal Asiatic Society, 10th March, 1836.

portant object, my attention was in the first place directed to making myself acquainted with the different drugs which the natives of India are themselves in the habit of employing as medicines. For this purpose I found it absolutely necessary to examine the things themselves, as well as to ascertain the names by which they were commonly known. I soon found that in this inquiry, it was necessary to become acquainted with the written works in the possession of the natives of India, as well as with their personal and traditional information. I therefore caused the works on *Materia Medica* to be collated by competent Hakims and Moonshes, among whom I would mention, as my principal assistants, Sheikh Nam Dar, commonly called Nanoo, the head medical assistant in the Civil Hospital of Saharunpore, and Murdan Aly, the chief plant collector, and keeper of the Herbarium in the Saharunpore Botanic Garden. By them the arrangement of these works, according to the Arabic alphabet, was persevered in; but the substances mentioned in each were arranged under the three heads of the Animal, the Vegetable, and Mineral Kingdoms. The works which were collated¹ extend from A.D. 1392 to 1769, the first having been written shortly after the close of the classic age of the School of Bagdad, the authors of which the Persian writers constantly follow. Al Buetaar or Ibn Buetaar, frequently quoted by Bochart in his *Geographia Sacra*, is the last of the distinguished Arabs. He died in 1248; the first translations into Arabic from the Greek and Sanskrit having been made about A.D. 748, or just five hundred years before the death of Ibn Buetaar, during the Kaliphate of Al-Mansur. During this period lived Haly Abbas, Mesue, Serapion, Rhazes, and Avicenna.

These were themselves indebted for much of their information respecting drugs, to Dioscorides. But to his description the Persians

¹ Ikhtiarat Buddee, who completed his work in 770 of the Hejira, or A.D. 1392. He is said to be the first who wrote on Medicine in the Persian language.

Tohfet-al-Moomineen, written in A.D. 1669, by Meer Mohummud Moomin; a native of Tinkaboon, in Dailim, near the southern shores of the Caspian Sea.

Ulfaz Udwyeh, compiled by the physician of the Emperor Shah Jehan; translated into English, by Mr. Gladwin, and printed in 1703. This is useful, as giving the synonyms in Arabic, Persian, and Hindooce, in the Persian character.

Mukhizun-ul-Udwyeh, or Storehouse of Medicines, written A.D. 1769, and printed at Hoogly, in 1824.

The Taleef Shereef, translated from the Persian by Superintending Surgeon Playfair, and published in Calcutta in 1833, has been referred to in a few instances.

Since my return to this country in 1832, having obtained copies of the Latin editions of Mesue, Serapion, Rhazes, and Avicenna, I have in many instances collated them with my manuscript catalogue.

have fortunately appended the Asiatic synonymes, and have given some account of Indian products not mentioned in the works of the Arabs. I myself made a catalogue (still in manuscript) of the whole, in which, after the most usually received, that is, the Arabic names, I inserted the several synonymes in Persian and Hindee, as well as in metamorphosed Greek. I obtained the articles, and traced them to the countries whence they were said to be derived, as well as to the animals and plants which were said to produce them; and made notes of any remarkable characteristics, and the medical uses to which they were applied.

Being without any suitable library for such investigations, and able only to obtain a small copy of Dioscorides, (12mo, Parisiis, 1549,) I was in most cases obliged to depend upon myself, for the identification of the several substances. The results of many of these investigations are briefly recorded in the observations on the history and uses of the different natural families of plants in my *Illustrations of the Botany, &c., of the Himalayan Mountains*. I also made use of these materials in my *Essay on the Antiquity of Hindoo Medicine*, in tracing different Indian products from the works of the Arabs into those of the Greeks, even up to the time of Hippocrates. I inferred that tropical products could only travel from South to North; and that the Hindoos must have ascertained their properties, and used them as medicines, before they became sufficiently famous to be observed and recorded by the Greeks. Having thus traced many of these Eastern products to the works of almost contemporary authors, I was led to conclude, that many of them must be the same as those mentioned in the Bible, especially as there is often considerable resemblance between the Arabic and Hebrew names; as, for instance:—

HEB.	ARAB.	
Abattachim	Buteekh	Melons and Water-Melon
Adashim	Adas	Lentils
Butzul	Butzl	Onions
Botnim	Butum	Pistacio Nut
Cammun	Kumoon	Cumin
Carcom	Kurkoom	Saffron

Some, again, would appear to have an Indian origin; as, for instance, Ahalim, translated Aloes wood, which is, with very little doubt, the same as the Malayan Agila, or Eagle wood, famed in ancient as in modern times. So Karpus, occurring in Esther i. 6., is translated *green* in the English Bible; but being placed between the words which signify the colours white and blue, it would naturally appear to be the

thing coloured, which was, no doubt, cotton, Karpas, from the Sanskrit Karpasa, now in Hindee Karpas and Kapas. And, it is further said, in the description of the court of the garden of the King's palace at Susa, that these white and blue hangings were fastened with cords of fine linen and purple to silver rings and pillars of marble. Of this we have a vivid representation in what may every day be seen in India, especially in the Hall of Audience at Delhi, where huge padded curtains, called *Purdahs*, (and usually in stripes of white and red, or blue and white,) may be seen suspended from the tops of slender pillars. For this purpose, indeed, the rows of pillars in front of the principal ruins of Persepolis appear to have been intended.

While residing in, and becoming acquainted with the manners of the East, I have often, in reading the Scriptures, been struck with the brevity and force with which the sacred penmen, in describing what was then before them, give a graphic picture of the living manners of the day. In the absence of medals, monuments, and inscriptions, and where the mouldered ruins of mighty cities allow us with difficulty to trace out even their sites, we are presented with the astonishing spectacle, that manners, which in Europe are fleeting and changeable as the wind, in the East, give living representations of those which characterised the residents of the very same regions, more than three thousand years ago. So conspicuously is this the case, that works have been written describing the manners, customs, and other characteristics of the East, for the express purpose of elucidating obscure passages in the Scriptures, as Roberts' *Oriental Illustrations of the sacred Scriptures*. Some again, as Dr. Taylor, in his *Illustrations of the Bible from the Monuments of Egypt, and Athens*, Nos. 507, 508, and 509, have had recourse to the works of Rossellini, Champollion, Wilkinson, and others, on Egyptian antiquities, as revealing most minute particulars of the public and private life of the Egyptians, and thus affording "important because undesigned confirmations of the historical veracity of the Old Testament."

It is hardly necessary to mention how the geography of Palestine, and the other countries which were the scenes of the transactions described in Scripture, has in like manner, and from the earliest times, been minutely examined for the purpose of illustrating the Scriptures. And yet even in this department, from the more careful researches, assisted by the knowledge of Arabic, of Mr. Eli Smith, unexpected discoveries have been made by Messrs. Robinson and Smith, in their most interesting and instructive travels. On this subject, these travellers observe, "There is in Palestine another kind of tradition, with which the monasteries have had nothing to do, and of which they have

apparently in every age, known little or nothing: I mean, the preservation of the ancient names of places among the common people. The Hebrew names of places continued current in their Aramæan form long after the times of the New Testament; and maintained themselves in the mouths of the common people in spite of the efforts made by Greeks and Romans to supplant them by others derived from their own tongues. After the Muhammedan Conquest, when the Aramæan language gradually gave place to the kindred Arabic, the proper names of places, which the Greeks could never bend to their orthography, found here a ready entrance, and have thus lived on, upon the lips of the Arabs, whether Christian or Muslim, townsmen or Bedouins, even unto our own day, almost in the same form in which they have also been transmitted to us in the Hebrew Scriptures." *Travels*, 1., p. 375.

I myself have long been of opinion that if similar pains were bestowed on the material substances mentioned in the Bible, and equal trouble taken to ascertain the natural history of the countries where the several events are described as having taken place, or with which there was commercial communication, much light would be thrown upon the sacred writings. For the products of nature, whether minerals, plants, or animals, are similar in nature and properties to what they were when man first made use of, or became acquainted with them. As those only which were most remarkable in appearances or properties would usually be cited, so many of those named in the Bible might be successfully ascertained, and afford most convincing proofs of books having been written at the times, and in the places to which they are usually ascribed. In this inquiry, as in that of the names of places, we have not only the traditional names of animals, plants, and minerals to assist us, but also those which are registered in the Arabic works on *Materia Medica*; as in these most of the useful substances of antiquity are described. Thus the cedar continues to be called *Erez*; lentils, *Adus*; the broom, translated juniper, is still known by the name *Rethum*: and many others might be adduced.

Considerable success has no doubt attended several of the attempts of naturalists to identify the natural history of the Bible. Confining our attention on the present occasion to plants only, we have Olaus Celsius, a friend of Linnæus, who did for the plants of the Bible what Bochart had done for the animals, and quite as well. He gave the labour of fifty years to the elucidation of the plants of the Bible; and seems to have exhausted the learning of the subject, as far as illustrations from Greek and Roman writers, as well as from the works of the Jews, and of many Arabic authors are concerned. He also travelled

in the East, and being acquainted with botany, first gave precision to our knowledge. Hence many of his determinations of the plants of the Bible remain undisputed. Other plants have been determined by the few naturalists who have visited the Holy Land for the purpose of identifying those of the Bible. Belon, who travelled in the East for three years (1546—1549), has given considerable attention to the plants and animals of the Bible, in his "*Observations sur Plusieurs Singularités et Choses Mémorables trouvées en Grèce, Asie, Judée, Egypte, Arabie, et autres Pays Étrangers: Paris, 1588.*" Rauwolf, in the same century (1576—1579), travelled in Palestine, Syria, and Mesopotamia; and made it his especial business to make himself acquainted with the plants of those regions. His travels were translated into English under the auspices of Ray, and thus frequently escape notice, as the two volumes are usually called Ray's Travels. These have the advantage of valuable catalogues prepared by Ray, of the plants found in the East by Belon, Rauwolf, and others. Rauwolf's own plants were published in the *Flora Orientalis* of Gronovius; Leyden, 1755. Hasselquist, an enthusiastic pupil of Linnæus, travelled in the Holy Land for the express purpose of examining the plants of the Bible. He died at Smyrna in 1752. His papers were published by Linnæus himself, and a translation into English in 1766, and the *Flora Palestina* in Linnæi *Opuscula*. Besides these, Labillardière, Bozé, Aucher-Eloy, and other travellers, have made us acquainted with many of the plants of Palestine. But we are still without a complete Flora of the Holy Land. Russel has given a list of the plants of Aleppo; and Forskal, Delisle, and others, of many of those of Egypt and Arabia.

Notwithstanding the exertions of these several naturalists, many of the plants of the Bible still remain undetermined, and by some commentators, nothing is considered so uncertain, as the determinations which have already been arrived at. Though each of the above authors has ascertained some plants, or confirmed the determinations of others, the success has yet not been so complete, as might have been expected from the exertions which have been made. I am not aware of any modern botanist having applied himself to the study of the Flora of Palestine, for the purpose of elucidating the natural history of the Bible.

The difficulties of identifying objects known to the ancients are no doubt considerable, as a knowledge is required, not only of Natural History, but also of some of the vernacular languages, to hold converse in, with the natives, and consult the works in which the useful plants or products may be described. We are besides

without the proper means for making satisfactory investigations. We do not yet possess a detailed Flora of Palestine, with the native names, properties, and uses of the several plants, and the situations in which they are found. With a simple Flora only, we should be at a loss among some thousand plants, to determine upon the hundred or so which are mentioned in the Bible. The properties which any particular plants possess, or the uses to which they are applied, necessarily restrict the attention to a smaller number, while the present native name might in some cases, from its similarity to the Hebrew, lead us to an identification, which we should have been at a loss for, without this assistance. But even this is not sufficient, for we shall find that though some of the vernacular names are somewhat similar to the ancient Hebrew, yet this is not the case with many others. Yet these plants may have names in some of the cognate languages, which are so similar to the Hebrew, as to leave no reasonable doubt of their original identity. Even some of the Greek and Latin names are not so dissimilar, but that we may often suspect that they indicate the same thing. Many however of the substances mentioned in the Bible were the produce of commerce, and obtained from distant countries. For these, a knowledge of the natural history and languages of Syria and Palestine are without value. We must follow the routes of commerce, and trace them to the countries whence they are said to have been obtained. We shall find in many instances that similar substances continue to be produced in those countries, are still objects of commerce, and continue to be used for the same purposes, and in some cases, present us even with so great a similarity in name, as to give us every reasonable assurance, that we clearly identify in the present product, the ancient article of commerce.

It was in identifying some of these articles of ancient commerce, said to be the products of India, that my attention was first directed to the subject. In following Indian products with Indian names, from India to Greece, as mentioned and described in the works of the Greeks, I inferred, as I have already stated, that their properties must have been investigated, and the substances made use of by the natives of India, before they could become known to distant nations, and become articles of foreign commerce. Hence I conceived myself entitled to infer the antiquity to a certain degree, of medicine among the Hindoos (*v. Essay on the Antiquity of Hindoo Medicine*). In the course of these inquiries I perceived that the same course of investigation could be usefully pursued, for ascertaining some of the substances mentioned in the Bible; in fact, many of them appeared to be the very same substances as those mentioned by the Greeks.

The works of nature through all ages retain uniformity of structure and of properties. Those most conspicuous for such as were useful or agreeable, would be the first to be employed in early times. By these properties, and by the names in the vernacular languages, which also retain a surprising degree of uniformity to their ancient forms, we are led to considerable certainty in our results. We must, however, examine the history of the several substances in the only works which contain any detailed or special notice respecting them, that is, in those of *Materia Medica*, or the *Accounts of Drugs*. Among these in ancient times, as in the present day among Oriental nations, we shall find, that almost everything is mentioned which has any property either useful or agreeable. With this study we must conjoin a knowledge of the Natural History, or the Mineralogy, Botany, and Zoology of the countries whence the substances were obtained. We shall thus attain a degree of certainty in our results, which to many will appear surprising, and which will give a degree of precision and correctness in our inferences and conclusions, respecting the commerce and intercourse among ancient nations, of which the subject, from its remoteness and dearth of facts, did not seem to be susceptible.

In prosecuting such researches, it is, I conceive, in the first place, necessary to determine the principles upon which they should be conducted, and also, what kind of evidence we should consider satisfactory, as determining that any particular points had been made out. Some of these points may appear too obvious to require being insisted on; nevertheless they have been entirely neglected in some investigations on these and similar subjects.

Confining ourselves at present to Biblical plants only, it is essential that any plant adduced, should correspond in properties, with that, it is supposed to be. 1st. It ought to be found in the countries where it is described, or to which allusion is made. 2ndly. It should possess the properties, or yield the products ascribed to it by the sacred penmen, or we ought to be able to show that such opinions were, or are still entertained respecting its properties and products. 3rdly. As the above would only amount to probability, in consequence of the numbers of plants growing in the same situation, and often useful for the same purposes, the plant ought to have a name in some of the cognate languages, either ancient or modern, or better if in both, which has some similarity to the Hebrew name. In the same way with an article of commerce, we ought to be able to prove that it is, or was, obtained from the direction, or the countries named or pointed out, and that it has the properties which are ascribed to the ancient drug. We ought also, if possible, to show that it has a name in some of the languages

of ancient or modern commerce, which is similar to that employed in the Hebrew or Greek languages, or one of which that employed in these languages, seems to be only a translation.

Taking these principles as my guide, I shall endeavour to keep them closely in view in determining the plant which is translated MUSTARD TREE; and subsequently, I shall treat of HYSSOP in a similar manner.

The Mustard Tree of the New Testament has frequently engaged the attention of commentators. It still continues undetermined, because the common mustard plant is considered not to possess all the requisites; and it is difficult to find a plant in which are combined all the peculiarities of that alluded to in Scripture; that is, one producing a small seed; being sown in a garden; growing into a herb, and then into a large tree, which afforded shade and shelter among its boughs to the fowls of the air. In order to ascertain whether we can find any such plant, it is necessary to examine the passages in which the mustard tree is mentioned, that we may know the characteristics by which it was, and should in the present day, be found to be distinguished.

The mustard tree is first mentioned in one of the parables spoken by our Saviour at the sea-side; Matthew xiii. 31, "The kingdom of heaven is like to a grain of mustard seed, which a man took, and sowed in his field:" (32,) "Which indeed is the least of all seeds; but when it is grown it is the greatest among herbs, and becometh a tree, so that the birds of the air come and lodge in the branches thereof." The same parable is mentioned in Mark iv. 31; and the tree is recorded as shooting out great branches, "so that the fowls of the air may lodge under the shadow of it." And in Luke xiii. 19, The kingdom of God "is like a grain of mustard seed, which a man took, and cast into his garden; and it grew, and waxed a great tree; and the fowls of the air lodged" (*κατεσκηνωσιν*, built nests, Matthew and Mark, *κατασκηνοῦν*, make their abode) "in the branches of it." The mustard tree is also mentioned by our Saviour in Matthew xvii. 20, "If ye have faith as a grain of mustard seed," *ὡς κοκκὸν σιναπεως*; an expression used metaphorically among the Jews, and meaning the smallest part: and nearly in the same words in Luke xvii. 6. In the original, the grain of mustard seed is called "*κοκκὸν σιναπεως*," and described as the smallest of seeds, "*μικροτερον μὲν ἐστι παντων τῶν σπερματων*," which grows into a *δενδρον*, or tree; St. Luke says that it becomes a great tree, *δενδρον μεγα*.

Considerable difficulty has been experienced in elucidating these passages, in consequence of the term *λάχανον*, usually denoting *garden*

herbs in opposition to wild plants, being employed to designate the plant which was produced from the *κοκκον σινανπεως*, the grain of mustard seed. Though distinguished as the smallest of seeds sown in a *κηπος*, garden or plantation, this grew also not only into a *δενδρον*, tree, but into a *δενδρον μεγα*, great tree.

Making all due allowance for the figurative and the Oriental form of expression, it does seem evident that the plant here indicated was *arboreous* in habit; though it certainly may appear contrary to nature that a herb of the garden should ever grow into a tree, in the great branches of which birds would build their nests. Indeed, if we were to take this term literally, most herbaceous plants would be excluded, as few are fit for such a purpose, at the season when birds build their nests. On this it might be observed, that both in Syria and Egypt, the crops being sown in autumn and reaped in spring, the plants might be sufficiently grown for the purpose. But here again we may reply, that their instinct would lead them to select a more secure locality, than a crop which was constantly disturbed by the cultivator and watchmen, and liable to be cut down. It is however quite possible to have a tree, cultivated almost like a herb, as may be seen in the Mulberry cultivation of Bengal, where the object is to have soft and herbaceous leaves, as food for the delicate silk-worm.

Commentators have usually taken it for granted that the common mustard plant, or some nearly allied species, is the plant; and have attempted various modes of explaining what appears to them the several discrepancies in the parable of the Mustard Tree. Sir Thomas Browne says, "If we recollect that the mustard seed, though it be not simply and in itself the smallest of seeds, yet may very well be believed to be the smallest of such as are apt to grow into a ligneous substance, and become a kind of tree." This is probably the proper view to take of the subject, especially as we are informed by Buxtorf, as quoted by Rosenmüller (*Botany of the Bible*, p. 104), that the later Hebrews used proverbially to compare to a mustard seed, any thing very small and insignificant; and he refers for the proverbial use of the expression *Garghir hachardal*, to Buxtorf's *Lex. Chald. Talmud*, p. 822. On this, Rosenmüller remarks that, "In a proverbial simile, no literal accuracy or strictness is to be expected, and we ought therefore not to be surprised that the mustard seed is spoken of as being 'smaller than all other seeds,' although it is well known that smaller seeds are to be found."

Most have adopted the idea, that the parable of the common Mustard Seed producing a large tree may be best explained by supposing that this is caused by luxuriant growth in a richer soil and

warmer climate. Dr. Clarke, for instance, observes, "Some soils being more luxuriant than others, and the climate much warmer, raise the same plant to a size and perfection far beyond what a poorer soil, or a colder climate, can possibly do." On this I may observe, that it does not by any means follow that plants which are at home and flourish in the soil and climate of Europe, will, when cultivated in a warmer and at the same time drier climate grow more luxuriantly. The majority of them will, on the contrary, wither away or be dwarfed.

In conformity to the foregoing view, Scheuchzer has described and figured (*Physica Sacra*, Tom. viii., p. 59, Tab. DC.LXXXIII) a mustard plant which grows several feet high, with tapering stalk; and which spreads into many branches. The *Sinapis crucoides* of Linnæus, is also adduced as a species attaining considerable size, and having a wood-like structure. Captains Irby and Mangles, in their journey from Bysan to Adjeloun, met with the mustard plant growing wild, as high as their horses' heads.

Mr. Frost, a few years since, published a small pamphlet which obtained considerable attention among literary men, in which he attempted to prove that *Phytolacca dodecandra* was the *δενδρον μεγα* of the Scripture, and its seed the *κοκκον σιναιπριως*. He asserts that the above plant grows abundantly in Palestine; that it has the smallest seed of any tree; and attains as great, or even greater altitude than any other in that country, of which it is a native. As the only attempt at anything like a proof is, that the North Americans call *P. decandra*, *poke weed*, or wild mustard, this opinion has never received the support of scientific men, because it is not known that the plant adduced has ever been found in Palestine, or even in Asia.

Before proceeding further, it is necessary to determine what are the characteristics of the Mustard Tree of Scripture, and what we must look for, in any plant supposed to be it.

In the first place, it appears to me that it must be what is strictly called a tree, perennial in nature, and woody in texture; and growing to some considerable size. It ought, moreover, among the trees of the forest, to have a small seed, for it does not appear necessary that its seed should be the smallest of all seeds. Nor indeed is it probable that the smallest seed of any tree, or indeed of any garden herb, is the smallest of all seeds. 2ndly. The *Sinapis* or Mustard Plant of Scripture, if not what is now commonly understood as the mustard plant, or some analogous species of *Sinapis*, ought to be a tree having similar properties. For we shall find that the ancients often grouped together plants and drugs, not so much from resemblance in

external appearance as from the possession of similar properties. Thus the black and white Hellebore, the black and white Bryony, the greater and lesser Centaury, were produced by plants having no external resemblance to each other; but the drugs which they yield have similar medical properties. 3rdly. The plant ought to have a name in the language of the country similar to that, by which the common mustard plant is itself distinguished.

None of the plants hitherto adduced appear to me satisfactorily to meet the difficulties of the subject. Much more to the purpose, though little taken notice of, are the quotations from Talmudical writings, which are, however, disparaged by Rosenmüller and others, because they seem to suppose that the passages alluded to, apply only to the common mustard plant. Thus the Babylon Talmud says, there was left to a man in Schechem, by his father, a mustard tree having three boughs of *chardal*, and one of the number being taken was found to afford nine eabs of mustard; and its wood was sufficient to cover the shed of a potter. So in the Jerusalem Talmud, R. Simeon Ben Chalogta says, "A chardal tree was in my field, which I was wont to climb, as men climb into a fig tree." Instead of animadverting on these passages, as if they were exaggerated statements respecting the common mustard plant, it would have been more philosophical to have inquired whether there was any tree of Palestine to which the above description and name could apply: and also, what was likely to have been the name by which our Saviour spoke of the mustard tree, when addressing in parables the people of Syria in the language of their country.

The language in which our Saviour addressed his parables was no doubt the Hebrew or one of the cognate dialects, as the Syriac or Western Aramaic, which formed the common language of Palestine at that time; and both are so closely allied to the Arabic, that many words are identical in all three. Thus the above *chardal*, in the Hebrew signifying mustard, is no doubt the same word as the Arabic خردل *khardal*, signifying mustard, and mustard seed, throughout the East. But the New Testament having been written in Greek, we have only the Greek *sinapis*, where the Arabic *chardal* may have been spoken. Though this word *chardal* is not found in the Old Testament, a word very similar to it (חרל *charul*;) occurs in no less than three passages, in all of which it is translated *nettles* in the authorised version. Thus in Proverbs xxiv. 30, 31, "I went by the field of the slothful, &c., and, lo, it was all grown over with thorns, and nettles (*charullim*) had covered the face thereof." Again, in Job xxx. 7, it is said, "Among the bushes they brayed: under the nettles (*charullim*)

they were gathered together." And, thirdly, in Zephaniah, ii. 9. As translators and commentators have no means of determining what plant is intended, different ones, chiefly of a thorny nature, have been fixed upon by different authors. Nettles have however had the greatest number of suffrages: but we have no proof that *charul* means a nettle, neither does it appear needful that it should; or that a thorny or prickly plant is necessary to complete the sense of the passage. For in the first passage, it only appears that fields which are uncultivated or neglected become covered with weeds; and in the passage of Job, such as, idlers may take shelter in, or take refuge among. The Arabic *khardal*, being evidently the same as the Hebrew *chardal*, and this being very similar to *charul*, I feel disposed to think that it may have the same meaning, or be applicable to one of the kinds of *khardal* or mustard; and we know that nothing so readily springs up in neglected corn-fields as the *charlock*, *chadlock*, or *kedlock*, as it is called in different parts of this country, and which is the *sinapis arvensis* of botanists. (Art. *Charul*, Cyclop. Bibl. Literature.)

Before proceeding to shew to what plant the term *khardal* appears to be applied in the present day, I may first mention how my own attention was directed to the subject. This was in consequence of being asked, some time last year, by the Right Rev. the Bishop of Lichfield, then Principal of King's College, London, whether I was acquainted with what was supposed to be the Mustard Tree of Scripture. I replied that I was not, as I had paid attention chiefly to those substances which had formed objects of ancient commerce, rather than to the natural products of Palestine; but that I had no doubt that some plant indigenous in that country would be found possessed of the requisite qualities. His Lordship then informed me that Mr. Ameuny, a native of Syria, and student of the College, then attending the theological class, had said, that he was perfectly well acquainted with it. Dr. Lonsdale added, and that his description of the tree seemed to correspond with everything that was required. On seeing Mr. Ameuny, and asking him whether he knew any tree which answered to the Mustard Tree of Scripture, he replied, that he was perfectly well acquainted with one; had often seen it, as it was common in the neighbourhood of Jerusalem; and that it was large enough for a man to stand under on horseback. I asked him what it was called; he replied, that it was everywhere known by the name of *khardal*. I observed, that that is the common Arabic name for mustard. He said, "So it is; and it is also applied to the seeds of this tree, which are universally employed throughout Syria as a substitute for mustard, of which they have exactly the taste and properties."

Mr. Ameuny was unable to give me any further information respecting it.

Previously to this, but without paying any particular attention to the subject, I had conceived that *Vitex Agnus Castus* might be the Mustard Tree of Scripture, as it grows to the size of a good-sized shrub, with woody stem, and its seeds have sometimes been called *piper agreste*. I also thought that it might be one of the larger *Capparideæ*, which grow to a considerable size, have berried fruit containing numerous small seeds, and one of which is described by Belon as "*Capparis Arabica fructu ovi magnitudine, semino piperis instar acro.*" The flower-buds and seeds of the caper of Mount Sinai, *capparis sinaica*, are pickled; and the latter are called *filfil-i-jibbul*, mountain pepper. But as there did not appear any proof in favour of any of these, the investigation was not pursued.

Having ascertained that the name *khardal* was in the present day applied to a tree in Palestine, the next point was to ascertain its name and nature, so that it might be seen whether it was in all points answerable to what was required. In referring to the ordinary Arabic dictionaries, and lists of drugs in the Latin editions of Avicenna, Serapion, and Rhazes, *chardal* and *cardel* are given as synonymes of *sinapis* only. In the *Ulfaz Udwiye*h, translated by Mr. Gladwin, three kinds of خردل are mentioned: 1st, No. 844, *khirdul*; Hindoe, *reiy*, mustard. 2nd, No. 784, where *khirdul birce* and *junglee-rie*, translated wild mustard, are given as synonymes of *hirasha roomee*; and the 3rd kind, No. 853, is *khirdul farsee*. In my own catalogue of Asiatic Materia Medica, خردل *khardal*, is given as the synonym of *raee*, that is, mustard. *Sinapis juncea*, &c. (Decand. Prod. ii. 612.) is the *khurdal* of Forskal, according to Delisle; and this is clearly allied to *sinapis integrifolia*, &c. (Decand. ii. 612.) 2. خردل بري *khardal burree*, or *junglee raee*, wild mustard, is the second, though it is difficult to say what plant is intended. 3. *Khardal roomee*, Persian, *hirasha roomee*, translated in Hindoe *junglee raee*, or wild mustard, of which the seeds, like those of the former kinds, are described as being stimulant. But neither in this list nor in the previous quoted *Ulfaz Udwiye*h, was I able to obtain any information respecting the nature of the plant. But the term *roomee* is by Asiatics usually used in reference to Constantinople, or to the Turkish empire; and I may observe that, the kind called *hirasha farsee*, or Persian mustard, in the *Ulfaz Udwiye*h, is called *khardal roomee*, or Turkish mustard, in my notes.

Finding by this investigation that several kinds of *khardal*, or

mustard, were known to Asiatics, and that this name was applied to a tree of Syria, it was extremely desirable to obtain, if possible, its name in scientific works, so that we might ascertain whether it possessed all the characteristics of the mustard tree. For this purpose, among other places, I referred to the index of my *Illustrations of Himalayan Botany*, where several Arabic names are mentioned, together with the names of the plants to which they are applicable. In this I did not find *khardal*, but a word so similar to it, that I was induced to refer to it, in the body of the work; and was surprised to find that it referred to a tree which, not only in name but in properties, corresponded very closely with what is required for the mustard tree. For instance, under the natural family of *Chenopodeæ* it is mentioned that, "*Salvadora*, which is placed in this order by Jussieu, but by Burtling in *Myrsinæ*, is a genus common to India, Persia, and Arabia; and the same species, *S. persica*, occurs in the Circars, north of India, and the Persian Gulf. Along with this another species is found on the banks of the Jumna, and from Delhi to Saharanpore. This is *S. indica*, *nob. jāl* of the Hindus, *irak hindæ* of Persian authors, who also give this tree the name of *Miswak*, or tooth-brush tree¹. *S. persica* is called *Khurjāl* in North India, *arak* and *irak* in works on *Materia Medica*. The bark of the root is acrid, and raises blisters. (Roxb.) A decoction of the bark of the stem is considered tonic, and the red berries are said to be edible." Royle, *Illust. Bot. Him. Mountains*, p. 319.

On referring to the work of Dr. Roxburgh mentioned above, the *Flora Indica*, vol. i., p. 389, it may be seen that a figure is given of the tree in his *Coromandel Plants*, vol. i., pl. 26, of which the Telungu name is *Pedda-warago-wenki*. He describes it as a middle-sized tree, a native of most part of the Circars, though by no means common; it seems to grow equally well in every soil; produces flowers and ripe fruit all the year round. This fruit consist of "berries very minute, much smaller than a grain of black pepper; smooth, red juicy, seed one."

Of the properties of the plant Dr. Roxburgh continues to say: "The berries have a strong aromatic smell, and taste much like garden cresses. The bark of the root is remarkably acrid, bruised and applied to the skin, soon raises blisters, for which purpose the natives often use it; as a stimulant, it promises to be a medicine possessed of very considerable powers." Roxb., l. c., p. 390.

¹ Can this be the plant to which Burekhardt alludes as the tree of which the Affghans make tooth-brushes on their pilgrimage to Mecca?

This plant was described in 1780 by Retz, in Obs. Bot. iv., p. 24, under the name of *Embelia grossularia*, who stated that he obtained it from König, from Tranquebar. His description agrees in all respects with that of Roxburgh. Colonel Sykes found it in the Dekhan; and it is mentioned in his Manuscript Catalogue, p. 250, as known to the natives by the name of *meru*. In the catalogue of the plants growing in Bombay and its vicinity, *Salvadora persica* is mentioned as growing near the sea in both Concans.

The late Sir A. Burnes, in his voyage up the Indus, mentions *Salvadora persica* (Travels, vol. iii., p. 122) under the name *peeloo*, as met with near Mooltan, and in all the tracts of saline soil that border on the Indus and Punjáb rivers; and especially in the Delta of the Indus, and lower parts of Sindo; and states that its seeds in taste resemble water-cresses, and that he found the fruit exposed for sale in the bazars of Mooltan. He supposes it to be the plant alluded to in Arrian's Indian History, as having leaves resembling those of the laurel, and growing in places within the influence of the sea. But there does not appear to me any proof of this identity. Lieutenant Welsted also mentions it as occurring on the southern coast of Arabia.

Before proceeding further in attempting to identify this tree with the Mustard Tree of Scripture, it is desirable to refer to the original description of this plant, which we find in the Philosophical Transactions, for 1749, p. 491, in a paper written in French, by Laurence Garcin, M.D., F.R.S., of Neuchâtel in Switzerland, but translated by Dr. Stack.

This plant is woody. It grows sometimes into a tree, sometimes into a shrub, and sometimes into a bush. Its native countries are the parts adjacent to the Persian Gulf, the North of Arabia, and the South of Persia¹. It is most commonly found along high roads, and in dry and low places, delighting in the hottest and driest places, more so even than palm trees. Dr. G. had not met with it in Surat or Bengal, where there are regular rainy seasons every year. The inhabitants of the Gulf call this shrub by the name of *Tchuch*. It varies considerably in size; is usually a larger sort of shrub. It produces a number of boughs without order, and very tufted branches, which most commonly hang down to the ground. Its bark is moderately thick, sometimes smooth, sometimes full of cracks, of an ash colour, both in the trunk and branches, but green on the tender shoots. The wood is everywhere brittle, and nearly of a straw colour.

¹ Mr. Bennett informs me that there are specimens in the British Museum from Muscat, collected by Aucher-Eloy.

The leaves in shape nearly resemble those of the sea purslain, and sometimes those of the misletoe of the apple tree. They are often covered with excrescences of different sizes and shapes—round, oval, and sometimes very large. They are the work of the flying insects which abound in those parts.

The flowers are disposed in clusters on the tops of the shoots. These bunches of flowers entirely resemble those of the vine blossom.

The pistil or embryo of the fruit afterwards swells in all dimensions, and grows into a berry, in the shape and size of a gooseberry (currant?) of three or four lines in diameter; at first it is of a pale green, then a bright purple, and in its maturity, of a dark red. Each berry is supported on a strong thick pedicle, attached to a small branch. Its substance is white transparent flesh, full of juice, much resembling jelly, which surrounds a single round grain, marbled with black or brown spots, as in the tortoise-shell, when ripe. This grain is as large as a grain of hemp-seed, that is, about two lines in diameter; but sometimes less. It is properly a kernel, or a shell that has a cavity, which incloses a sort of little round almond of a straw colour, yellowish on its outward surface, and pale in its inward substance, which is pretty firm. All the parts of our plant have an acid, pungent taste and smell, vastly like our garden cresses, but more biting. The fruit is the most pungent part of the whole. The smell of the plant is perceptible at seven or eight paces distance, when a person is to leeward.

The natives of the country use it against the bite of the scorpion, by rubbing the wounded part with its bruised leaves. They also employ its warm infusion to wash the bodies of their children, in order to keep them healthy; and they feed camels with it, who love it naturally.

Dr. Garcin finding that this plant did not correspond in characters with any previously described plant, established a new genus, and applied to it the name *Salvadora*, in honour of M. Salvador, of Barcelona, a very skilful botanist, of whom M. Tournefort makes mention in the Introduction to his *Institutiones Rei Herbaræ*, where he styles him the Phoenix of his nation, because he was really the richest naturalist, and the most expert botanical traveller that Spain ever produced. Dr. Garcin also herborized with him before the siege in 1713 and 1714; and says, "I thought it incumbent on me to do honour to his memory, by giving his name to this plant, and I have done it with the greater justice, because it is certain that had he lived, he would have given a history of the plants of Spain, which by

its accuracy would have afforded much pleasure to the botanists of Europe."

This plant is also described by Forskal, in his *Flora Aegyptiaco-Arabica*, published by Niobuhr in 1775, under the name of *Cissus arborea*, which he found at several places, as he mentions that at Surdud it is by the Arabs called رديف *redif*; at Dabhi, رأك *rák*; at Hashad (*Káhsad*), the tree is called ارك *ürk*, and the fruit كبات *kebáth*. He also states that it is held in high esteem by the Arabs; that the fruit is edible, when ripe; the leaves when bruised applied upon the tumours called *harm*, &c.; that it is also so famed as an antidote against poisons, as to be celebrated in a song by some Arab poet:—

ارات النبات بطلع نبات مدور
يبيع ثبات من الرجال الكلمي

He describes it as a shrub with smooth stem, opposite drooping branches, with the flowers arranged in terminal branches, which are afterwards followed by berries about the size of a pea, and containing a single seed.

Mr. Bennett informs me that the *Salvadora persica* was found in Egypt by Sir G. Wilkinson. Delisle gives us the locality "in Monte Gharab Egypti superioris." Endlicher, in his *Genera Plantarum*, gives us the geographical distribution of *Salvadora persica*, "per Asiam mediam, ab India superiore ad mare Mediterraneum, per Africam borealem a Nilo ad Senegambiam¹."

¹ In Indian writers we see that ارك *irak*, is applied to the same tree.

² Mr. Johnson, in his recently published and interesting work, intitled, *Travels in Southern Abyssinia*, says, "The *Moomen*, or tooth-brush tree (*Salvadora persica*) abounded at Sakeitaban. Several of the Hy Soumaulee brought me a handful of the berries to eat; but I was soon obliged to call out, 'Hold, enough!' so warmly aromatic was their flavour. This singular fruit grows in drooping clusters of flesh-coloured, mucilaginous berries, the size of our common red currants, each containing a single round seed, about as large as a pepper-corn. The taste at first is sweet, and not unpleasant, and by some, I think, would be considered very agreeable indeed. After some little time, if many are eaten, the warmth in the palate increases considerably, and reminded me of the effect of pepper, or of very hot cress. As we approached the river Hawash, I found these trees growing more abundantly.

"The *moomen* forms a dense bush, some yards in circuit, and as their sleek, velvety, round leaves, of a bright green colour, afford an excellent shade, they form the favorite lairs, both of savage man and of wild beasts. Reposing upon the ground, near the roots, free from underwood and thorns, whoever, or

Having traced this tree, which so singularly coincides in name and in properties with what is required for the Mustard Tree of Scripture, from the extremity and coasts of the Peninsula to the North-Western provinces of India, and from that to the Persian and Arabian Gulfs, it is necessary for our purpose to ascertain that it is also found in Palestine. But in this I was long unsuccessful, as I was unable to find any notice in systematic botanical works, or in local Floras, of the prevalence of *Salvadora persica*, to the north of the situations in which Forskål had found it. I therefore had recourse to the works of travellers, especially of those who had paid some attention to natural history; but I was still unable to find any notice of such a plant in any of the lists of the Flora of Palestine. I then referred to the excellent digest of the information on Natural History subjects contained in books of travels in Palestine, in Mr. Kitto's Physical Geography and Natural History of the Holy Land, where at p. ccliii, with other unknown plants, I found an extract which is directly applicable to our subject:—

“Advancing towards Kerek, from the Southern extremity of the Dead Sea, Captains Irby and Mangles soon, on leaving the borders of that sea, entered into a very prettily wooded country, with high rushes and marshes. Leaving this, the variety of bushes and wild plants became very great: some of the latter were rare, and of remarkable appearance. ‘Occasionally we met with specimens such as none of our party had seen before; a botanist would have had a fine treat in this delightful spot. Amongst the trees which we knew, were various species of acacia, and in some instances we met with the dwarf mimosa: we saw also the *doom*’¹; and the plant which we saw in Nubia, and which Norden calls the *oschar* (*Asclepias procera*). There was one curious tree which we observed in great plenty, and which bore fruit in bunches, resembling in appearance the currant, with the colour of the plum. It has a pleasant although strongly aromatic taste, exactly resembling mustard; and, if taken in any quantity, produces a similar irritability of the nose and eyes to that which is caused by taking mustard. The leaves of the tree have the same pungent flavour as the fruit, although not so strong. We think it probable that this is the tree our Saviour alluded to in the parable

whatever lies there is entirely covered from sight; and not unfrequently a leopard or a hyæna skulks out of, or a startled antelope bounds from the very bush that the tired Bedouin has selected for his own retreat from the sun.” Travels, vol. i, p. 424.

Moomen is also the name of pepper, Mr. Johnson informs me.

¹ Not the Doom Palm of Egypt (*Cucifera thebaica*).

of the Mustard Seed, and not the mustard plant which we have in the North; for although in our journey from Byssora to Adjeloun we met with the mustard plant growing wild, as high as our horses' heads, still, being an annual, it did not deserve the appellation of "a tree," whereas the other is really such, and birds might easily, and actually do, take shelter under its shadow." Travels, p. 363; and p. 107 of Mr. Murray's edition, forming a volume of the Colonial Library.

From this it is, I think, quite evident that Captains Irby and Mangles fell in with the very tree, of which we are in search and have traced to Arabia; and which they were therefore the first to recognise as the Mustard Tree of Scripture, though their discovery has not attracted the degree of attention which it deserved. Their description is brief and imperfect, yet it contains enough to have convinced me, on first reading it, that the tree was the *Salvadora persica*. The properties being the same would not prove the point, for many plants have warm and spicy seeds, though we may not have succeeded in tracing them into Palestine. But when in conjunction with these properties we have it mentioned as a tree, having its fruit in bunches, something like the currant (whence no doubt Retz's name of *Grossularia*), we have a combination which is not usual among the trees of Europe, nor as far as I am aware, among those of Syria and Palestine. It is more than probable, that it is to this tree that the name *chardal* is applied by Talmudical writers; who state that it was large enough to be climbed like a fig-tree; that its branches spread over like a tent. These statements have been considered unworthy of notice by Dr. Harris, Rosenmüller, and others. But it is without doubt to the same tree that Mr. Ameuney applies the name *khardal*, and the seed of which he informs me is usually employed in Palestine for the purposes of mustard.

On further inquiry of Mr. Ameuney, (now attending my own class at King's College,) where this khardal tree was found, he informed me that he had seen it all along the banks of the Jordan, and very abundant in the neighbourhood of the Lake of Tiberias, and near Damascus. He also stated that it was so generally recognised in Syria as the Mustard Tree of Scripture, that the Reverend Storey Hebard had carried specimens of the plant from the shores of the above Lake to Jerusalem, not as a rarity, because the khardal tree is also found there, but as specimens to send to America, from the very locality where our Saviour had spoken the parable of the Mustard Tree.

As specimens of the plant, or accurate descriptions of it by a qualified botanist, would alone satisfy others of the existence of this plant in the above localities, and knowing that my friend Dr. Lindley had

seen the collections of Bové, and those made in the expedition of Colonel Chesney, I wrote to him to inquire whether among these plants he had seen any specimens of *Salvadora persica*; and he informed me in reply, that *S. persica* was found on Mount Sinai by M. Bové, but that he did not see it among the plants collected in Colonel Chesney's expedition. This is however an interesting locality, as it thus connects the Arabian localities with those in which it had been found by Captains Irby and Mangles.

Having proceeded thus far, that is, having found in India a tree called *kharjal*, which has the same properties as the *khardal* of Syria, and then ascertained that *Salvadora persica* (the *kharjal* of Northern India) is found along the Persian Gulf and the coast of Arabia, even up to the neighbourhood of Mount Sinai, I thought that I had been the first to infer from their description that this was identical with the tree found by Captains Irby and Mangles, on the southern coast of the Dead Sea. But I was surprised in looking, with a totally different object, at Dr. Lindley's *Flora Medica*, to find the *Salvadora persica* there mentioned, as the tree supposed to be the Mustard Tree of Scripture. Having only recently obtained this information, I have been unable to ascertain the grounds upon which this supposition was entertained, as upon inquiry of Dr. Lindley he was unable to refer me exactly to the place where the speculation had been entertained either by Mr. Lambert or Mr. Don. But as my own conclusions had been arrived at by an independent course of investigation, to which I had been led by the Asiatic synonyms of the plant which is supposed in Syria to be the Mustard Tree of Scripture, I conceive them worthy of presentation to the Society as tending to confirm those of other inquirers.

On mentioning this subject casually to Mr. Bennett, of the British Museum, and Secretary to the Linnean Society, he was good enough immediately to seek out the information, and favor me with the accompanying remarks, which were read at the Meeting of the Asiatic Society, on the 20th of April:—

"I find that both Don and Lambert have published notes on the Mustard Tree, suggested by the communications of Captains Irby and Mangles; but that both (instead of adopting) object to the inference of those travellers, that the tree observed by them was the Mustard Tree of Scripture, at the same time that they positively identify the Captains' tree with *Salvadora persica*, L.

"Don's observations are in Jameson's *Edinburgh New Philosophical Journal*, vol. ii., p. 306. After quoting the passage from Irby and Mangles, he says, 'On reading this passage, both Mr. Lambert

and myself felt interested in ascertaining what the tree might be, and at first we were inclined to suppose it was a species of *Phytolacca*, with which genus the habit of the plant, as far as could be learnt from the above description, pretty well accords; but the examination of an authentic sample in the possession of Mr. Banks [Mr. William Banks, who was in Palestine at the same time with Irby and Mangles], has proved the supposition was unfounded, and that the tree is *Salvadora persica* of Linnaeus, the *Embelia grossularia* of Retzius, and the *Cissus arborea* of Forskal.' Don then quotes Roxburgh's description of *Salvadora* for the sake of comparison, and speaks of it as 'found in Arabia, Syria, Persia, and India, between the parallels of 18° and 31° N. latitude.' He goes on to say, 'I am far from assuming this tree to be identical with the apocryphal Mustard Plant of the sacred Scriptures: indeed, the whole passage in the Gospel by St. Matthew appears to militate against such an opinion, and it would appear that some common agricultural herb of large growth had been intended by our Saviour in the parable; but whether the plant belongs to the same family with *Sinapis* of Linnaeus, and for what purposes it was cultivated, are questions rendered quite problematical at this distant date. We are pretty certain, however, that it cannot be a *Phytolacca*; for it does not appear that any real species of that genus has been observed in Palestine.' He believes *Phytolacca Asiatica* of Linnaeus, in the list of Hasselquist's plants, forming the 'Flora Palæstina,' (*'Phytolacca foliis serratis'* of the first edition of the 'Species Plantarum,') to be probably intended for *Salvadora persica*, 'with which Linnaeus does not appear to have been ever well acquainted.'

"Lambert's 'Note on the Mustard Plant of the Scriptures,' is in Linnaean Transactions, vol. xvii., p. 449. He believes the plant to be literally *Sinapis nigra*; and relies for confirmation of this on the statement of Captain Irby and Mangles of the large size to which that plant sometimes attains in the Holy Land. The following is his reference to *Salvadora*: 'What Mr. Frost says about *Phytolacca* he took from some conversation he heard in my library, not relating to the mustard seed of Scripture, but to a plant mentioned by Captains Irby and Mangles, of which they brought me a specimen, and which proved to be *Salvadora persica*, found by them growing in a hot valley of the Holy Land.'"

Mr. Bennett also called my attention to Lady Calcott, having in her work, entitled Scripture Herbal, referred to the above information obtained from Captains Irby and Mangles. This I had overlooked, from *Sinapis nigra*, or the common black mustard, being the plant selected for illustration by her Ladyship.

It has therefore been ascertained beyond doubt that the *Salvadora persica* is found in Palestine, in the neighbourhood of the Dead Sea; and I think, considering the wide distribution of the plant, we may be allowed to conclude that the same plant is found on the shores of the Lake of Tiberias, and that it is there called *khardal*, or mustard. To some, the evidence by which it has been concluded that this is the tree alluded to in the parable of the Mustard Tree may not appear satisfactory; and they may think, as Mr. Lambert, that the common mustard plant is suitable to all that is required, especially as it is herbaceous as stated in the first part of the parable; has a small seed, and was probably cultivated in gardens. But this mustard seed is far from being the smallest of seeds, for even in Syria we have trees, as the poplar and willow, with small seeds; but still, speaking generally, mustard seed is small, as is also that of the *khardal*, or *Salvadora persica*, for anything that grows into a tree, and that, the parable seems to me to require. Mr. Don, though not satisfied with this, is as little so, with the common mustard; and fancies that some unknown agricultural plant of large growth was intended, but which it would now be difficult to discover. But to me there appears nothing improbable in the *Salvadora persica* itself having been so cultivated, and its herbaceous parts employed, as well as its seed, as a condiment. In fact, we might infer that it was so, for Rosenmüller mentions that a plant which he supposes was the common mustard, was at least by the later Hebrews cultivated as a garden plant. This is evident from the fact, that in the Talmud (Massroth, cap. iv., § 6,) its buds are mentioned amongst things which are subject to titho. From this he infers that it was cultivated, because according to the general rule established in the Talmud (Massroth, cap. i., § 1) everything eatable, and which is taken care of, cultivated, and nursed (in gardens, or in ploughed fields), and which has its growth from the earth, is subject to titho. If we were to take the foregoing passage literally, it would of itself be sufficient to prove, that the common mustard plant was not that alluded to, because herbaceous plants are without regular buds; and they are moreover not grown to a great size at the season when birds build their nests.

We may briefly, therefore, sum up the result of our inquiries. Our Saviour in the parable adduces a plant having a small seed, which being sown we may suppose in a suitable soil, grows up into a tree, or, as the Apostle Luke says, a great tree, in the branches of which the fowls of the air take shelter or build their nests. This tree is mentioned in the New Testament by the Greek name *Sinapè*, or mustard, and we may infer that it was spoken of by the Hebrew or

Syriac name of mustard, which, as in the Arabic, is *chardal*, or *khardal*¹. Whatever the plant may be, we are justified in concluding that it possessed the properties of mustard, from the same name being applied to it. The Arabs, we have seen, enumerate several kinds of *khardal* or mustard; that is, the common, the wild, and the Persian kinds; and it has been shown that the ancients were in the habit of grouping things together, rather by their intrinsic properties than their external characters.

Having learnt that the tree which in Palestine is at the present day recognised as the Mustard Tree of Scripture is there called *khardal*, I was led to conclude that this was *Salvadora persica* before even I could prove that this tree had ever been found in Syria. It is a curious and interesting fact, and one which we cannot consider accidental, that in so remote a country as the North-West of India, the name *kharjal* should be applied to the same tree as *khardal* is in Syria. This proves the impossibility of collusion, or the recent application of the latter name to a plant of Palestine, merely to meet the exigencies of the case, as has been done in some cases by unscrupulous monks, who usually calculate on the credulity of their hearers being in proportion to their own ignorance. Subsequently I learnt that Captains Irby and Mangles had found a tree near the shores of the Dead Sea, which I concluded from their short description must be *Salvadora persica*. This I afterwards ascertained had already been determined by Messrs. Don and Lambert, from examination of specimens brought from the very locality by Mr. W. Bunkes, and we find that it is a tree known both in Persia and Arabia, in India and Abyssinia, for its gratefully aromatic and pungent seeds, which we find employed at the present day in Syria for the ordinary purposes of mustard, and which we are therefore justified in concluding is the *chardal* tree alluded to by Talmudical writers.

In conclusion, it appears to me, that taking everything into consideration, *Salvadora persica* appears better calculated than any other tree that has yet been adduced to answer to everything that is required, especially if we take into account its name and the opinions held respecting it in Syria. We have in it a small seed, which, sown in cultivated ground, grows up and abounds in foliage. This being

¹ Mr. Norris, Assistant Secretary of the Royal Asiatic Society, has favoured me with the following note:—"I have looked at the old Syriac version of the passages where the mustard tree is named, and find the word ܚܪܕܐܠ *khardal*. The same is in the Chaldee. The modern Jews appear also to use the same word, for I find it in the Hebrew version of the New Testament."

pungent, may, like the seeds, have been used as a condiment, as mustard and cress is with us. The nature of the plant, however, is to become arboreous, and thus it will form a large shrub, or a tree, twenty-five feet high, under which a horseman may stand, when the soil and climate are favourable. It produces numerous branches and leaves, among which birds may and do take shelter, as well as build their nests. It has a name in Syria which may be considered as traditional from the earliest times, of which the Greek is a correct translation. Its seeds have the pungent taste, and are used for the same purposes, as mustard. And in a country where trees are not plentiful, that is, the shores of the Lake of Tiberias, this tree is said to abound, that is, in the very locality where the parable was spoken. If we consider, moreover, the wide distribution of this plant, from Damascus to Cape Comorin, and from the Persian Gulf to Senegambia, we still find that it is well suited to illustrate the typical comparison of the doctrines of the Gospel, which though at first gaining only a few adherents, would in the end spread far and wide.
